

XII.—*Fourth Account of new Species of Snakes in the Collection of the British Museum.* By ALBERT GÜNTHER, M.A., M.D., Ph.D.

[Plates II. & III.]

THE following species of Ophidians have been added to the Collection of the British Museum since the publication of the last paper on the same subject in this Journal (November 1863, p. 348). The total number of species in that collection amounts now to 789, and that of the typical specimens to 289.

In the following lists some of the species are marked with an asterisk (*): they will be described in this paper.

I. *List of Species which were formerly desiderata.*

- Calamaria leucogaster*, *Blkr.*, = *C. Rebentischii*, *Blkr.* Sumatra, Sinkawang. Dr. P. Bleeker. (Typical specimens.)
 — *monochrous*, *Blkr.* Sumatra. Dr. P. Bleeker. (Typical specimen.)
 — *borneensis*, *Blkr.* Sintang. Dr. P. Bleeker. (Typical specimen.)
 — *Roelandti*, *Blkr.* Borneo. Dr. P. Bleeker. (Typical specimen.)
 — *margaritophora*, *Blkr.* Sumatra. Dr. P. Bleeker. (Typical specimen.)
 — *agamensis*, *Blkr.*, = *C. Dumerilii*, *Blkr.*, = *C. Sinkawangensis*, *Blkr.* Sumatra, Sinkawang. Dr. P. Bleeker. (Typical specimens.)
Prosymna meleagris, *Rhrdt.* Valley of the Shiré. Purchased.
 **Polemon Barthii*, *Jan.* Old Calabar. Purchased.
Urieichis capensis (*Elapomorphus capensis*, *Smith*). Caffre-land. Sir A. Smith. (Typical specimen.)
Ablabes decemlineatus, *D. & B.* Palestine. Rev. H. B. Tristram.
Coluber lineaticollis, *Cope.* Dueñas. Messrs. Godman & Salvin.
Mastigophis lateralis, *Hallowell.* California. Purchased.
Dromicus portoricensis, *Rhrdt.* —? A. Günther.
Gonyosoma Jansenii, *Blkr.* Manado. Dr. P. Bleeker.
Psammophis oxyrhynchus, *Rhrdt.* Pungo Andongo. Dr. Welwitsch.
Dipsas variegata, *Rhrdt.* West Africa. Purchased.
 — *obtusa*, *Reuss.* Egypt. Rev. O. P. Cambridge.
 — *gemmistrata*, *Cope.* Pacific Coast of Guatemala. O. Salvin, Esq.
Tropidonotus semicinctus, *D. & B.* —? Dr. P. Bleeker.
Ogmodon vitianus, *Peters.* Feejee Islands. A. Günther.
Vermicella Bertholdi, *Jan.* Swan River. Purchased.
 **Brachyuropis australis*, *Krefft.* Clarence River. G. Krefft, Esq.
Naja mossambica, *Peters.* Zambesi River. Dr. Kirk.
Cerastes caudalis, *Smith.* West Africa. Dr. Welwitsch.

Clotho (*Vipera*) *euphratica*, *Martin*. Galilee. Rev. H. B. Tristram.
 — *atropoides*, *Smith*. Cape of Good Hope. Sir A. Smith.
 (Typical specimen.)

II. *List of the new Species procured and described in the course of the year 1864.*

- **Calamaria flaviceps*. Borneo.
- Rhynchocalamus melanocephalus*. Palestine. Rev. H. B. Tristram.
- **Oligodon Waandersii*. Boni. Dr. P. Bleeker.
- **Simotes vertebralis*. Bandjermassing. L. L. Dillwyn, Esq., M.P.
- Coronella nototaenia*. Zambesi. Dr. Kirk.
- Cyclophis nasalis*. Southern India. A. Günther.
- **Megablades olivaceus*. Manado. Dr. P. Bleeker.
- **Coluber batjanensis*. Batjan. Dr. P. Bleeker.
- **Spilotes megalolepis*. South America. Purchased.
- **Dromicus Godmanni*. Dueñas. Messrs. Godman & Salvin.
- **Ahaetulla frenata*. —? A. Günther.
- **Psammophis trigrammus*. River S. Nicolao. F. F. Monteiro, Esq.
- Chamæ tortus aulicus*. Zambesi. Dr. Kirk.
- **Tropidonotus sundanensis*. Sumatra. Dr. P. Bleeker.
- **Limnophis bicolor*. Angola. M. B. du Bocage.
- **Dendraspis Welwitschii*. Golungo Alto. Dr. Welwitsch.
- * — *polylepis*. Zambesi River. Dr. Kirk.
- * — *intermedius*. Zambesi River. Dr. Meller.

Calamaria flaviceps.

Calamaria Schlegelii, Günth. Colubr. Snak. p. 5 (not Dum. & Bibr.).

Upper labial shields five; first pair of lower labials not forming a suture together; an azygos scale between the chin-shields. Head two-thirds as broad as long. Blackish brown, with rings of white dots across the back, each ring corresponding to a white space on the belly; these dots are very obscure, and may entirely disappear in old examples. Belly with black cross bands. Head entirely uniform yellow. Ventral shields 152; subcaudals 20–23.

Borneo.

Polemon Barthii.

We received lately a snake from Old Calabar which agrees so well with *Polemon Barthii*, Jan, that no doubt can be entertained as to their specific identity. Its dentition is opisthōglyphous, as has been shown by Prof. Peters (Monatsber. Acad. Wiss. Berl. 1863, p. 368). Ventral shields 205, anal divided, subcaudals 18. But, most singularly, *the subcaudals are divided*, and not simple as in the typical specimen.

Simple subcaudals are justly generally considered as a generic character; but it appears that on the West Coast of Africa,

where snakes with simple subcaudals are more common than anywhere else, there exist Ophidians which offer exceptions to the general rule. In my last paper on Ophidians (Ann. Nat. Hist. 1863, p. 363) I have made the remark that Reinhardt's typical specimen of *Atractaspis irregularis* is described as having *scutella*, whilst all the following writers attribute simple *scuta* to this species. A specimen which Dr. Welwitsch brought from Angola has the five anterior subcaudals entire, and the posterior seventeen divided; so that the character of simple subcaudals is evidently subject to variation in the genus *Atractaspis*. Bibron has made a similar observation in *Leptodira rufescens*, which induced him to name the genus which he founded upon it *Heterurus*. Therefore there is no reason why I should not consider the specimen mentioned above as identical with *Polemon Barthii*.

Thus the question arises whether *Uriechis*, Peters, *Microsoma*, Jan, = *Urobelus*, Rhrdt., *Polemon*, Jan, and *Miodon*, Dum., should not be referred to one and the same genus. Peters thinks that *Polemon* is a good genus, characterized by the articulation of the maxillary and os pterygoideum externum by means of a *double* process; but the materials are at present much too scanty to decide whether this character by itself is of generic value or not. Nay, when we consider that only a few examples of those snakes have been examined, that several of them are young, that Jan's assertion of *Microsoma* having a simple nasal shield is contradicted by Reinhardt, who found two in *Urobelus*, we are justified in recommending caution as regards the adoption of the several species which have been proposed as distinct.

Oligodon Waandersii.

Scales in fifteen rows; ventrals 151, anal bifid, subcaudals 28. Upper labials six, the third and fourth entering the orbit; one præ-, two post-oculars; temporals 1 + 2. Upper parts brownish olive, with pairs of yellowish spots, edged with blackish, along the back; head and neck with the markings characteristic of this genus. Lower parts uniform white.

The young has the spots more distinct, of a bright yellow colour; there are about twelve pairs from the nape to the extremity of the tail.

We have received two specimens from Dr. Bleeker: the larger is $8\frac{1}{2}$ inches long, and has been named by him *Rhabdion Waandersii*; the younger, 4 inches long, *R. cruciatum*. They are from Boni.

Simotes vertebralis.

Scales in fifteen rows. Upper labials seven, the third and fourth entering the orbit; loreal square; one ante-, two post-

oculars; temporals 1+2; ventrals 154; anal entire; subcaudals 54. Brownish grey above, with a series of twenty-two equidistant orange-coloured spots along the vertebral line, each as large as two scales, and edged with black; the first, on the nape, is elongate, band-like; many scales on the side have an orange or black edge. Head with the markings usual in this genus. Lower parts uniform yellowish.

This is the only species I know which has only fifteen rows of scales, like some *Oligodontes*; however, the teeth on the palate are very distinct, although few in number. The specimen is from Bandjermassing, and is 14 inches long, the tail having a length of 3 inches.

MEGABLABES.

Body rather elongate and slender; head of moderate size, rather depressed, with a flat crown. Two nasals; one loreal; two anterior and two posterior oculars. Scales smooth, without apical groove, elongate on the anterior parts of the trunk, and square posteriorly. Ventrals rounded, about 200; anal entire; subcaudals two-rowed. Eye rather large. The maxillary teeth form a continuous series, and gradually increase in length posteriorly, none of them being grooved.

This genus forms a connecting link between the Coronelline and Colubrine snakes: it might be considered as a gigantic *Ablabes* with the physiognomy of a *Herpetodryas*, with the dentition of *Ptyas*, and with an entire anal shield; and, on the other hand, the unusually small number of scales distinguishes it from all the other true Colubrine genera.

Megablabe olivaceus.

Rostral shield much broader than high, obtusely rounded above, just reaching to the upper surface of the head; anterior frontals nearly square, half as large as the posterior, which are about as broad as long. Vertical much longer than broad, with the lateral edges concave, and the posterior edges short and meeting at an obtuse angle. Superciliaries large, as large as the vertical, with a prominent orbital edge. Occipitals obtusely rounded behind, as long as the vertical and one-half of the posterior frontals. Loreal rather longer than high. The præ-orbital is concave, extending to the upper surface of the head, but not reaching the vertical; there is a small second præ-orbital below the larger one. Two postoculars; eight upper labials: the first enters the margin of the nasal opening, which is very wide, the fourth and fifth coming into the orbit; the sixth triangular, the point being directed upwards; the seventh is the largest, oblong. Temporals 2+2, both anterior in con-

tact with the postoculars. Two pairs of chin-shields, the posterior of which are much longer than the anterior, and divergent. Ventrals 197; subcaudals 102.

The upper parts, and from the middle of the length of the trunk the lower ones, are brownish black; anterior part of the belly yellow; some scales of the vertebral series of the foremost part of the trunk brownish yellow. The two outer series of scales of the anterior half of the trunk yellowish; but a series of irregular black blotches runs along the lower part of the sides, to the point where the dark colour becomes generally predominant.

We have received one example of this interesting snake from Dr. Bleeker's collection as *Leptophis olivaceus*; it comes from Manado, and is 78 inches long, the length of the tail being 20 inches, and that of the head $1\frac{1}{4}$ inch.

Coluber (Liellaphis) batjanensis. Pl. II. fig. A.

Body and tail moderately elongate, but slightly compressed. Head depressed; eye small. Rostral shield broader than high, reaching to the upper surface of the head; anterior frontals not quite one-third as large as the posterior; vertical pentagonal, longer than broad, its lateral edges being rather shorter than the anterior. Occipitals as long as the vertical and posterior frontals together, slightly divergent behind. Nostril rather wide, dividing the two nasals. Loreal longer than high, half as large as the single anteocular, which extends upwards just to the upper surface of the head; two postoculars; eight upper labials, the third, fourth, and fifth entering the orbit; temporals 2 + 2 + 3. Scales short, rounded, without apical groove, smooth, in seventeen series. Ventral shields 236; anal entire; subcaudals 78. Each maxillary with about twelve teeth, subequal in length.

Upper parts brownish black; head brownish olive; anterior part of the trunk with rather indistinct triangular reddish spots along each side, their point being directed upwards; each scale of the outer series with a small reddish spot near the apex. Ventral shields brownish yellow, with the lateral corners black.

Total length 61 inches; tail 12 inches.

Spilotes megalolepis.

As *Spilotes Salvini* differs from *S. variabilis* in having much smaller scales, so the present species is distinguished by very large scales; they form fourteen series only, those of the outer series being very small, whilst all the others are very large, lanceolate, and provided with a strong, broad keel; the largest of the scales are as large as, or larger than, an occipital shield.

The form of the head and of the shields is the same as in *S. variabilis* and *S. Salvini*, the sixth upper labial being very small, and the seventh very large. Ventral plates 226; anal entire; (tail mutilated).

Black; snout with two lighter cross bands; upper labials brownish yellow, with broad black margins; anterior ventrals yellow, with a black margin, which gradually becomes broader in the ventrals of the second fifth of the length of the body; from the middle of the length, the belly and the subcaudals are entirely black.

Total length 7 feet 9 inches.

Dromicus Godmanni.

Scales smooth, without apical groove, in twenty-one series; ventrals 176; anal divided; subcaudals 88. Loreal longer than high; one præ-, [two post-oculars. Upper labials eight, the fourth and fifth entering the orbit. Temporals 1+2+3. Posterior chin-shields shorter than the anterior, which are in contact with four lower labials. Brownish grey, with a blackish vertebral band as broad as a scale; another similar band runs along the fifth outer series of scales. Dark lines, besides, follow each of the other series of scales. Each upper labial with a bright-yellow, dark-edged spot; a pair of yellow spots on each side of the neck, at the commencement of the lateral band. Lower parts uniform whitish.

Several specimens were collected by Messrs. Godman and Salvin at Dueñas (Guatemala): the largest is 18 inches long; tail 5 inches.

Ahatulla frenata. Pl. II. fig. B.

Of very slender habit. Scales smooth, lanceolate, in seventeen rows. Snout produced, rather pointed, the width of the interorbital space being only two-thirds of the length of the snout. Anterior frontals not quite twice as long as broad; posterior frontals twice as long as broad. Loreal none; præ-orbital reaching to the upper surface of the head, but not in contact with the vertical; two postorbitals. Rostral shield quite at the lower surface of the projecting part of the snout. Eight upper labials, the third, fourth, and fifth entering the orbit. Temporals 1+2+2. Eye of moderate size, with round pupil. Ventral shields long, not keeled on the sides, 191 in number; anal bifid; subcaudals 166. The posterior maxillary tooth is somewhat larger than, and separated from, the preceding tooth, and not grooved. Upper parts of the head and nape green; a black, inferiorly white, streak runs from the rostral shield through the eye, along the side of the head and neck, as far backwards as the seventh ventral shield. The trunk and the

tail, below as well as above, are greyish, punctulated and finely marbled with purplish; a few small irregular black spots are sparingly scattered over the back, sides, and belly.

Total length 52 inches; length of head $\frac{5}{8}$ inch; length of tail 22 inches.

The native country of this species is not known.

Psammophis trigrammus. Pl. II. fig. E.

Head and anterior part of the trunk uniform greenish olive, which colour gradually passes into the reddish olive of the remainder of the trunk and of the tail. Behind the anterior third of the length of the trunk the scales of the vertebral series begin to show a black extremity; and these spots are confluent into a narrow black streak on the tail. A series of indistinct brown spots runs along the meeting halves of the two outer series of scales of the posterior two-thirds of the trunk and of the tail. Ventral shields and the outer half of the outer series of scales yellow; ventral shields tinged with greenish in the middle.

Scales in seventeen rows; ventrals 182; anal bifid; subcaudals 134. Snout moderately elongate, not pointed. Vertical shield contracted in the middle, as generally in *Psammophis*; loreal much elongate; one ante-, two post-oculars; nine upper labials, the fifth and sixth entering the orbit. Posterior chin-shields much longer and narrower than the anterior.

One specimen, 4 feet long (tail 17 inches), was obtained by Mr. Monteiro on the banks of the river S. Nicolao (Little Fish Bay, West Africa). It has so many points of resemblance to *Chrysopelea præornata* that I hesitated for some time to describe it as distinct. However, it is undoubtedly a true *Psammophis*, having one of the middle maxillary teeth much enlarged; the corresponding tooth in our specimens of *C. præornata* (which are young) is but little larger than the others. Both snakes appear, at all events, to be specifically distinct, differing in the number of the scales and upper labials, in the form of the head-shields, and in the coloration of the anterior parts; but it is not improbable that *C. præornata* would be better referred to the genus *Psammophis*.

Tropidonotus sundanensis. Pl. II. fig. D.

Scales in nineteen rows, strongly keeled, lanceolate. Head not depressed; eye very large, the length of its diameter being scarcely less than that of the snout. Anterior frontals subtruncated in front; rostral rather broader than high; vertical broadest in front, with the lateral margins convergent, much longer than broad; occipitals rather longer than the vertical,

rounded behind. Loreal as high as long. One antecular, concave, extending to the upper surface of the head, but not reaching the vertical; three very narrow postoculars; nine upper labials, the fourth, fifth, and sixth of which enter the orbit. Temporals 1 or 2 + 3. Chin-shields elongate, the posterior much longer than the anterior, and divergent. Ventrals 146; anal divided; subcaudals 96. The last maxillary tooth is larger than, and separated from, the others.

Upper parts greenish olive, with two series of black spots along the vertebral line, and with another series along each side near the belly; the spots of the latter series are largest anteriorly, where they partly extend on to the ventral shields. Crown of the head with black dots symmetrically arranged; labial shields with a black hinder edge; each ventral with a narrow black streak across its base, interrupted in the middle.

This snake, which we received with the above name from Dr. Bleeker's collection, is from Siboga (Sumatra). The specimen is 32 inches long, the tail being 11 inches long.

LIMNOPHIS, nov. gen. (Fam. Natricidæ.)

Habit stout, cylindrical; form of the head as in *Tropidonotus*; tail rather short. Scales smooth, short, in nineteen rows; anal and subcaudals divided. A single anterior and two posterior frontals; loreal present. Maxillary teeth in an uninterrupted series, gradually increasing in size posteriorly, the last being distinctly larger than the preceding, and not grooved.

Limnophis bicolor. Pl. II. fig. C.

This species is very similar to *Neusterophis levissima*, Gthr., a genus to which it stands in the same relation as *Astretium* to *Tropidonotus*. The single anterior frontal is triangular, rather longer than broad; posterior frontals small, scarcely larger than the anterior. Vertical more than twice as long as broad, with parallel outer edges, and with a right angle behind; occipitals as long as the vertical and posterior frontals together, rounded behind. Nostril between two nasals, lateral, a little directed upwards; loreal large; one præocular, extending to the upper surface of the head, but not reaching the vertical; two postoculars; eight upper labials, of which the third and fourth, or the fourth alone, enter the orbit; the sixth and seventh are the largest, and the sixth is in contact with the occipital, which is bent downwards. Temporals 1 + 2, none in contact with the postoculars. Chin-shields two pairs, elongate; the posterior much divergent behind, and longer than the anterior. Ventrals 132; anal 1/1; subcaudals 45. All the upper parts uniform black; belly white.

M. Barboza du Bocage has sent us two specimens, which came from the province Duque de Bragance (Angola). Total length 24 inches; tail 4 inches.

Brachyuropis australis.

Mr. Krefft has kindly sent us a specimen of the snake described by him as *Simotes australis*. Finding it very similar in its physiognomy to *Brachyuropis semifasciata*, which I described and figured in this Journal (January 1863), I re-examined the latter, and am enabled by their comparison to correct several errors.

1. Both species are congeneric, readily distinguished by their coloration and by the scales, which are more elongate in *B. australis*. The dentition of *Brachyuropis*, which had been injured in the larger specimen of *B. semifasciata*, but which is perfect in *B. australis*, has been erroneously described as opisthoglyphous; the grooved tooth, on the contrary, is the foremost of the maxillary bone, although placed far backwards on the side; two very small teeth occupy the posterior extremity of the maxillary. Therefore *Brachyuropis* is to be placed in the family of *Elapidæ*, near *Furina*.

2. The typical specimen of *Brachyuropis semifasciata* and one of *Neelaps calonotus* were obtained from a collector who had been sent to New Granada, and who stated that they had been collected by himself in that country. Hence I was led to doubt Duméril's statement that the latter species is a native of Tasmania. But now, having received a species closely allied to *B. semifasciata* from Australia, it appears to be almost certain that that collector bought those specimens on his return in England, and that the two species named are really from Tasmania.

DENDRASPIS, Schleg.

Two species of this genus were known, viz. *D. angusticeps* and *D. Jamesonii*. I am enabled to add three others from the collections made by the members of the Zambesi expedition and by Dr. Welwitsch. The species will be readily distinguished by the following diagnoses.

Dendraspis Jamesonii, Traill.

Scales in thirteen rows; ventral shields 220. The last upper labial shield is not in contact with the upper temporal.

Dendraspis Welwitschii. Pl. III. fig. A.

Scales in fifteen rows. Ventrals 213; anal bifid; subcaudals 107. Seven upper labial shields, the fourth of which enters the orbit, the sixth being the largest. There is only one large

temporal shield, which is in contact with the second upper post-orbital. Three large shield-like scales behind the occipitals. Dull brownish green; each scale on the front part of the trunk with a black tip. Scales and shields of the tail with a narrow black margin.

Total length 64 inches; tail 15 inches.

One specimen has been obtained by Dr. Welwitsch in Golungo Alto, a district in Angola.

Dendraspis angusticeps, Smith. Pl. III. fig. B.

Scales in seventeen or nineteen rows; ventrals 226-270. Two very large anterior temporals, the upper of which extends as far backwards as the occipital.

Southern and Western Africa.

Dendraspis intermedius. Pl. III. fig. C.

Scales in nineteen rows; ventrals 206; subcaudals 112. Upper labials eight, the sixth being the largest, the seventh and eighth small; temporals 2+3; both anterior temporals in contact with the postoculars, and not extending as far backwards as the occipitals. Uniform green, with a few scattered yellowish spots. Inside of the mouth white.

One specimen, 55 inches long, tail 13 inches, was received from the Zambesi River.

Dendraspis polylepis. Pl. III. fig. D.

Günth. Proc. Zool. Soc. June 28, 1864.

Scales in twenty-three rows; ventrals 258; subcaudals 120. Temporals 2+3; both anterior temporals in contact with the postoculars. Dull greenish olive; hind part of the body and tail with small irregular blackish spots; inside of the mouth black.

Zambesi.

XIII.—On the Genera and Species of British Echinodermata.

By the Rev. ALFRED MERLE NORMAN, M.A.

PART I.

CRINOIDEA—OPHIUROIDEA—ASTEROIDEA.

TWENTY-FOUR years is a long period in the history of our knowledge of any class in the animal kingdom; and such is the time which has elapsed since our latest and, indeed, only monograph on British Starfishes was published; and Prof. Forbes's work still remains our only authority on the subject. In the interim, however, not only has very much been learnt respecting the